

ELR H5-IES-SC-SWD/500AC-2 - Hybrid motor starter



2903117

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Hybrid motor starter for reversing 3~ AC motors up to 550 V AC, 2.4 A output current, adjustable overload shutdown and safe emergency stop up to PLe/SIL 3 and SmartWire-DT™ adapter as a set.

Your advantages

- 22.5 mm wide
- Safety level in accordance with IEC 61508-1: SIL 3, ISO 13849: PL e
- Reduction in wiring
- Long service life
- Space saving
- Adjustable current for bimetal function
- Low-wear switching

Commercial data

Item number	2903117
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C470
Product key	CK7455
Catalog page	Page 31 (C-7-2013)
GTIN	4046356712811
Weight per piece (including packing)	559.6 g
Weight per piece (excluding packing)	276.9 g
Customs tariff number	85371098
Country of origin	DE

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Technical data

Product properties

Product type	Hybrid motor starters
Product family	CONTACTRON
Operating mode	100% operating factor

Electrical properties

Number of phases	3
Motor starter type	Reversing starter
Maximum power dissipation for nominal condition	2.2 W
Switching frequency	≤ 2 Hz (Load-dependent)
Maximum power dissipation	4.1 W
Minimum power dissipation	0.88 W
Coordination type	1

Supply

Rated control circuit supply voltage U_S	24 V DC
Control supply voltage range	19.2 V DC ... 30 V DC
Rated control supply current I_S	40 mA
Protective circuit	Surge protection Reverse polarity protection; Parallel polarity protection diode

Insulation characteristics

Rated insulation voltage	500 V
Rated surge voltage	6 kV
Overvoltage category	III
Degree of pollution	2
Insulation characteristics between the control input and control supply voltage, and auxiliary circuit to the main circuit	Safe isolation (IEC 60947-1) at operating voltage ≤ 300 V AC
	Safe isolation (EN 50178) at operating voltage ≤ 300 V AC
	Basic insulation (IEC 60947-1) at operating voltage 300 V AC ... 500 V AC
	Safe isolation (EN 50178) at operating voltage 300 ... 500 V AC
Isolation characteristics between the control input and control supply voltage to auxiliary circuit	Safe isolation (IEC 60947-1) in the auxiliary circuit ≤ 300 V AC
	Safe isolation (EN 50178) in the auxiliary circuit ≤ 300 V AC

Input data

Control

Input name	Control input right/left
Rated actuating voltage U_C	24 V DC
Triggering voltage range	19.2 V DC ... 30 V DC
Rated actuating current I_C	5 mA
Switching threshold	9.6 V ("0" signal)
	19.2 V ("1" signal)

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Switching level	< 5 V DC (For EMERGENCY STOP)
Typical turn-off time	< 30 ms

Output data

AC output

Rated operating voltage U_e	500 V AC
Operating voltage range	42 V AC ... 550 V AC
Mains frequency	50/60 Hz
Load current range	180 mA ... 2.4 A (see to derating)
Trigger characteristic in acc. with IEC 60947-4-2	Class 10A
Cooling time	20 min. (for auto reset)
Leakage current	0 mA
Protective circuit	Surge protection

Acknowledge output

Note	Confirmation: floating change-over contact, signal contact
Contact switching type	1 changeover contact
Switching capacity in accordance with IEC 60947-5-1	3 A (230 V, AC15)
	2 A (24 V, DC13)

Connection data

Control circuits

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb _F -in. ... 7 lb _F -in.

Load circuit

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb _F -in. ... 7 lb _F -in.

Signaling

Status display	Yellow LED
Operating voltage display	Green LED

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Error indication	Red LED
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Dimensions

Dimensional drawing	
Width	22.5 mm
Height	165 mm
Depth	114 mm

Material specifications

Flammability rating according to UL 94	V0 (Housing)
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-5 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m

Approvals

ATEX

Identification	⊕ II (2) G [Ex e] [Ex d] [Ex px] ⊕ II (2) D [Ex t] [Ex p]
Certificate	PTB 07 ATEX 3145

UL approval

Certificate	NLDX.E228652 NRNT.E172140
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Safety Integrity Level (SIL, IEC 61508)

Identification	≤ 3
Note	Safe shutdown

Safety Integrity Level (SIL, IEC 61508)

Identification	2
Note	Motor protection

Performance Level (ISO 13849)

Identification	e
Note	Safe shutdown

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Category (ISO 13849)

Identification	≤ 3
Note	Safe shutdown

UL data

SCCR	100 kA (480 V AC (fuse: 30 A class CC/30 A class J (high fault)))
	5 kA (480 V AC (fuse: 20 A RK5 (standard fault)))
FLA	2.4 A (480 V AC)
Group installation	20 A (class RK5, SCCR 5kA, #24 - 14 AWG max. solid and stranded)
	30 A (class CC or J, SCCR 100kA, #24 - 14 AWG max, solid and stranded)
Category code	NLDX / NRNT

Standards and regulations

Standards/regulations

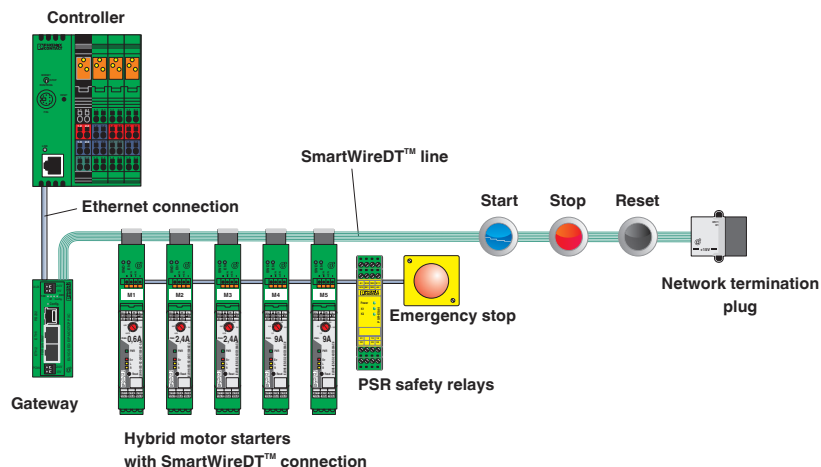
Standards/regulations	IEC 60947-1
	EN 60947-4-2
	IEC 61508
	ISO 13849

Mounting

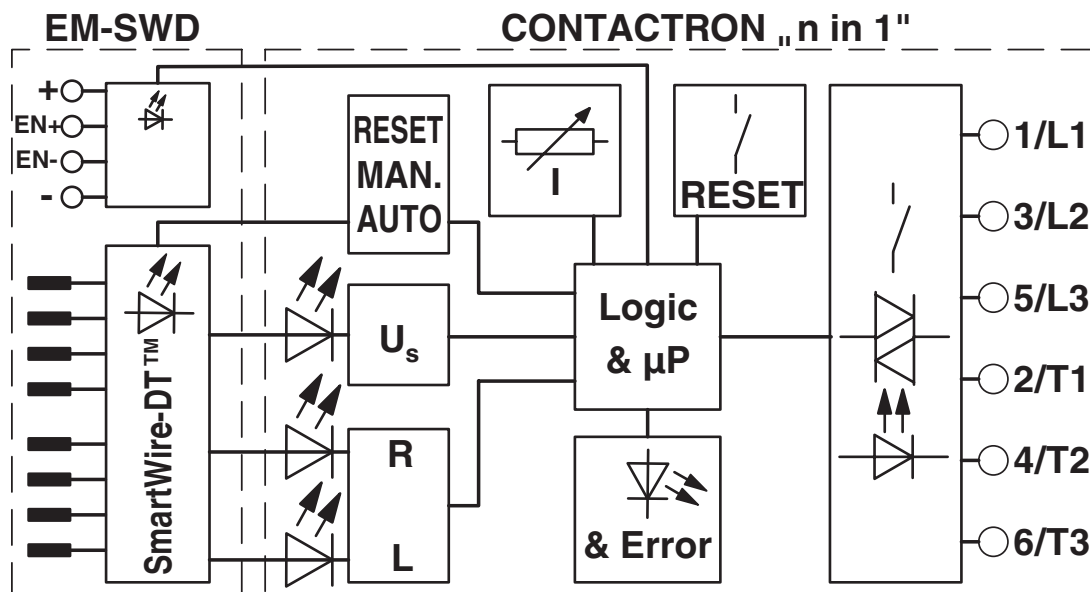
Mounting type	DIN rail mounting
Assembly instructions	alignable, for spacing see derating
Mounting position	vertical (horizontal DIN rail, motor output below)

Drawings

Application drawing



Block diagram



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The diagram illustrates the electrical connections for the EM SWD-ADAPTER. It shows a 3-phase power supply (L1, L2, L3) connected to the CONTACTRON N in1 relay. The relay's control terminals (1/L1, 3/L2, 5/L3) are connected to the power supply. The relay is also connected to a motor (M 3~) and a PE ground. The EM SWD-ADAPTER is connected to the relay's control terminals and provides SWD and EN signals to the EM5C SWD-DP PXC module. The module also has AUX, Config, PROFIBUS-DP, and POW connections.

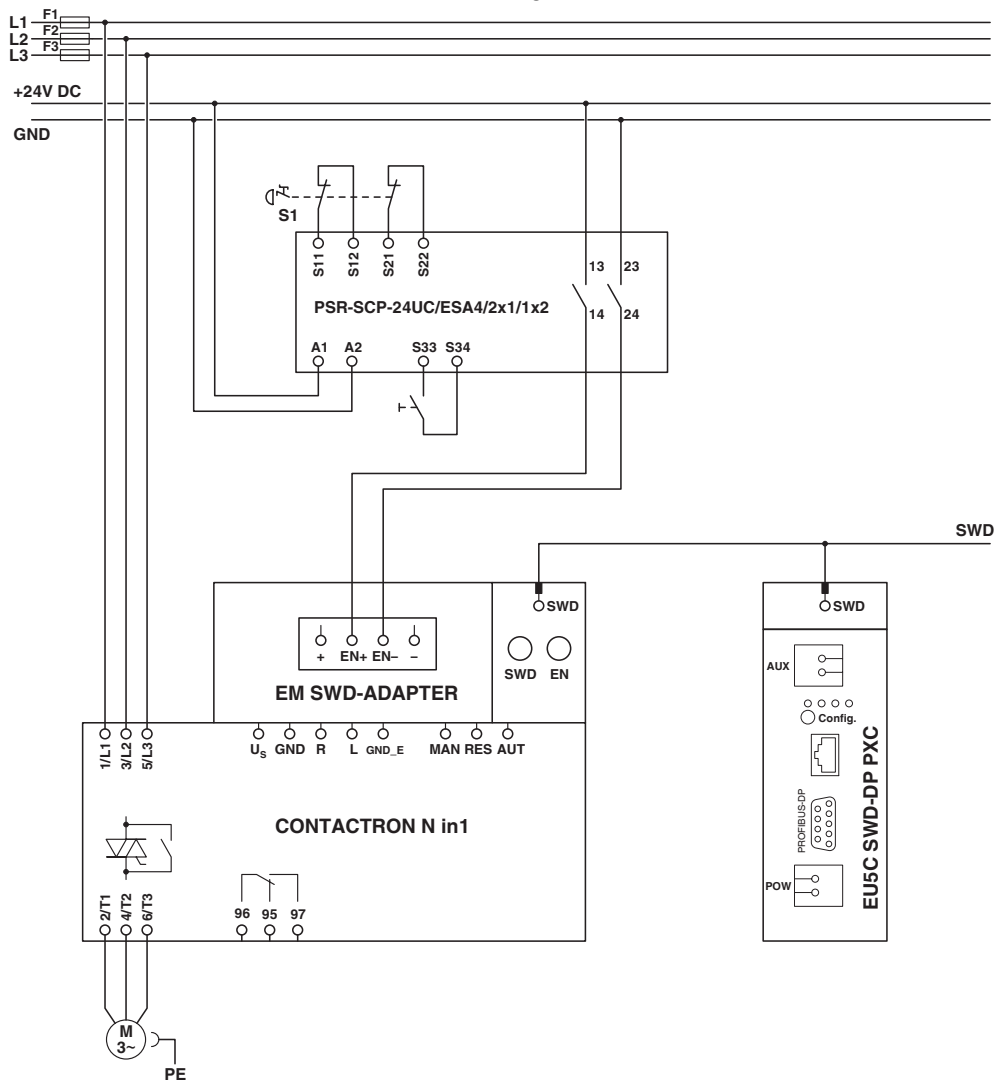
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Circuit diagram



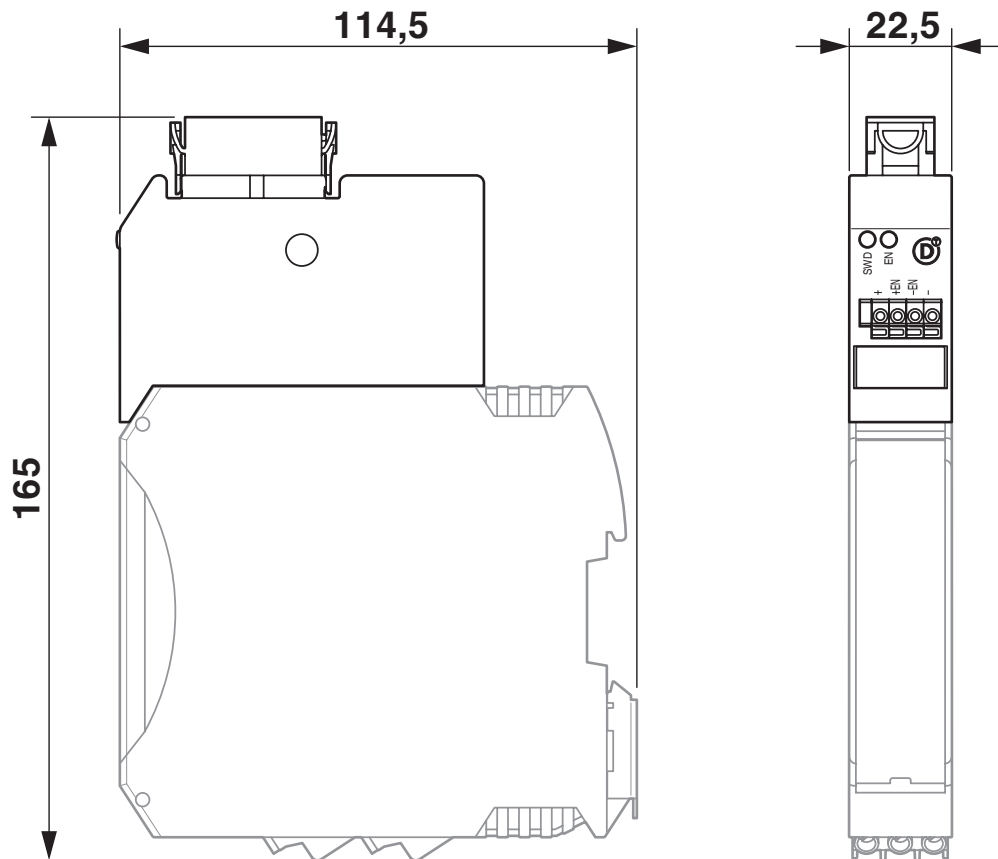
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Dimensional drawing



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Classifications

ECLASS

ECLASS-11.0	27370905
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ETIM

ETIM 8.0	EC001037
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UNSPSC

UNSPSC 21.0	25173900
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Environmental product compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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